

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station, ~~and~~

sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and a mobile communication network about the channel capacity needed for each call or connection, and

adjusting dynamically the capacity of the common traffic channel.

2. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and the network about the channel capacity needed for each call or connection,

adjusting the capacity of said common traffic channel dynamically by one or more of: changing the number of the allocated subchannels in the traffic channel; changing channel coding; and

changing the ratio of chip rate to data rate in the code division multiple access system.

3. (Previously Presented) A method according to claim 2, comprising assigning said common traffic channel to the mobile station when the first call or calls are set up,

increasing the capacity of the common traffic channel or reallocating the allocated capacity when a new call, or a new connection of an old call, is added to the traffic channel,

decreasing the capacity of the common traffic channel or reallocating the allocated capacity when a call or a connection of a call is cleared from the traffic channel, and releasing the common traffic channel after the last call has been cleared.

4. (Previously Presented) A method according to claim 1, wherein the type of at least one of the calls is one of the following: a pure non-transparent call; a pure transparent call; a call comprising at least one non-transparent connection and at least one transparent connection; and a packet-switched call.

5. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and the network about the channel capacity needed for each call or connection,

establishing one radio link protocol link or link access control protocol link over the traffic channel between the mobile station and an interworking function,

establishing a logical channel for each call or each connection of each call inside said one radio link protocol link or link access control protocol link, and

transmitting the user data of each call or each connection of each call via the respective logical channel.

6. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls,

negotiating between the mobile station and the network about the channel capacity needed for each call or connection,

establishing a dedicated radio link protocol link or a link access control protocol link for each call or each connection over the traffic channel between the mobile station and the interworking function, and

transmitting user data of each call or connection via the logical channel established by the respective radio link protocol link or link access control protocol link.

7. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and the network about the channel capacity needed for each call or connection,

establishing one radio link protocol link or link access control protocol link over the common traffic channel between the mobile station and the interworking function, and

transmitting data packets of a packet-switched call either interleaved with the protocol frames of the radio link protocol link or the link access control protocol link or encapsulated in the protocol frames.

8. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and the network about the channel capacity needed for each call or connection,

establishing a radio link protocol link or a link access control protocol link for each call or each connection over the common traffic channel between the mobile station and the interworking function, and

transmitting the data packets of a packet-switched call either interleaved with the protocol frames of the radio link protocol link or the link access control protocol link or encapsulated in the protocol frames.

9. (Previously Presented) A method according to claim 1, comprising  
detecting that the mobile communication network is temporarily unable to allocate more transmission capacity or the required transmission capacity to the common traffic channel when a new call or connection is established,  
reallocating the available capacity of the common traffic channel to the calls, and  
allocating the requested capacity to the common traffic channel later when capacity becomes available in the network.

10. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system according to claim 9, comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls,  
detecting that the mobile communication network is temporarily unavailable to allocate more transmission capacity or the required transmission capacity to the common traffic channel when a new call or connection is established,

allocating the requested capacity to transparent calls or connections and the remaining capacity to non-transparent calls or connections when the mobile communication network is temporarily unable to allocate more transmission capacity or the requested amount of transmission capacity to the common traffic channel, and

allocating the requested capacity to non-transparent calls or connections later when capacity becomes available in the network.

11. (Previously Presented) A method according to claim 1, comprising  
monitoring the traffic of at least one call or connection on the traffic channel,  
detecting that there is temporarily no traffic in said one call or connection, and  
using the temporarily unused resources for the traffic of at least one other call or connection in the common traffic channel.

12. (Previously Presented) A method according to claim 11, comprising  
detecting that the information flow of the transparent call or connection contains a  
filler according to the protocol used, such as flags or control frames,  
deleting said filler from the transparent information flow at the transmitting end,  
transmitting frames or packets of at least one non-transparent or packet-switched  
connection via the traffic channel in place of said filler, and  
returning said filler to the received information flow in the receiver before  
transmitting it further.

13. (Cancelled)

14. (Currently Amended) A mobile station which comprises  
means for producing two or more simultaneous data calls for one mobile station in  
a mobile communication system, said means comprising  
means for sharing the capacity of one common traffic channel ~~assigned to~~  
between two or more simultaneous mobile communication network calls ~~between said~~  
~~simultaneous calls~~,  
means for negotiating between the mobile station and the network about the  
channel capacity needed for each call or connection, and  
means for adjusting the capacity of said common traffic channel  
dynamically.

15. (Previously Presented) A mobile station according to claim 14, comprising  
means for establishing a separate subchannel for each call or each connection of each call  
in said common traffic channel.

16. (Currently Amended) A mobile station comprising  
means for producing two or more simultaneous data calls for one mobile station in  
a mobile communication system, said means comprising  
means for sharing the capacity of one common traffic channel ~~assigned to~~  
between two or more simultaneous mobile communication network calls ~~between said~~  
~~simultaneous calls~~,

means for negotiating between the mobile station and the network about the channel capacity needed for each call or connection,

means for establishing one radio link protocol link or link access control protocol link over the common traffic channel between the mobile station and the interworking function,

means for establishing a logical link for each call or each connection of each call inside said one radio link protocol link or link access control protocol link,

means for transmitting user data of each call or each connection of a call via the respective logical link, and

means for adjusting the capacity of said common traffic channel dynamically.

17. (Currently Amended) A mobile station comprising

~~means for producing two or more simultaneous data calls for one mobile station in a mobile communication system, said means comprising~~

means for sharing the capacity of one common traffic channel ~~assigned to~~ between two or more simultaneous mobile communication network calls ~~between said simultaneous calls,~~

means for negotiating ~~between the mobile station and the~~ with a network about the channel capacity needed for each call or connection,

means for establishing a radio link protocol link or link access control protocol link for each call or each connection over the traffic channel between the mobile station and ~~the~~ an interworking function, and

means for transmitting the user data of each call or each connection of each call via the respective logical link established by the radio link protocol link or link access control protocol link.

18. (Currently Amended) A mobile station, comprising

~~means for producing two or more simultaneous data calls for one mobile station in a mobile communication system, said means comprising~~

means for sharing the capacity of one common traffic channel ~~assigned to~~ between two or more simultaneous mobile communication network calls ~~between said simultaneous calls,~~

means for negotiating ~~between the mobile station and the~~ with a network about the channel capacity needed for each call or connection,

means for establishing one radio link protocol link or link access control protocol link over the common traffic channel between the mobile station and ~~the~~ an interworking function,

means for establishing a logical link for each call or each connection of each call inside said one radio link protocol link or link access control protocol link,

means for transmitting user data of each call or each connection of a call via the respective logical link, and

means for transmitting data packets of a packet-switched call either interleaved with the protocol frames of the radio link protocol or link access control protocol or encapsulated in the protocol frames.

19. (Currently Amended) A mobile communication network which comprises means for producing two or more simultaneous calls for a mobile station said means comprising

means for establishing one traffic channel of the mobile communication network for two or more mobile communication network calls,

means for sharing the capacity of said common traffic channel between said simultaneous calls,

means for negotiating between the mobile station and ~~the~~ a network about the channel capacity needed for each call or connection, and

means adjusting dynamically the capacity of the common traffic channel.

20. (Currently Amended) A mobile communication network comprising means for establishing one traffic channel of the mobile communication network for two or more simultaneous mobile communication network calls of a mobile station,

means for sharing the capacity of said common traffic channel between said simultaneous calls,

means for negotiating between the mobile station and ~~the~~ a network about the channel capacity needed for each call or connection, and

means for adjusting the capacity of said common traffic channel dynamically.

21. (Previously Presented) A mobile communication network according to claim 19, comprising means for establishing a separate subchannel for each call or each connection of each call in said traffic channel.

22. (Previously Presented) A mobile communication network according to claim 21, comprising

means for establishing one radio link protocol link or link access control protocol link over the traffic channel between the mobile station and the interworking function,

means for establishing a logical link for each call or each connection of each call inside said radio link protocol link or link access control protocol link, and

means for transmitting the user data of each call or each connection of each call via the respective logical link.

23. (Previously Presented) A mobile communication network according to claim 21, comprising

means for establishing a radio link protocol link or link access control protocol link for each call or each connection over the traffic channel between the mobile station and the interworking function, and

means for transmitting the user data of each call or each connection of a call via the respective logical link established by the radio link protocol link or link access control protocol link.

24. (Previously Presented) A mobile communication network according to claim 19, comprising

means for assigning said common traffic channel to the mobile station when the first call or calls are set up,

means for increasing the capacity of the common traffic channel or reallocating the allocated capacity when a new call, or a new connection of an old call, is added to the common traffic channel,

means for decreasing the capacity of the common traffic channel or redistributing the allocated capacity when a call or a connection of a call is cleared from the common traffic channel, and

means for releasing the common traffic channel after the last call has been cleared.



25. (Previously Presented) A mobile communication network according to claim 19, wherein the type of at least one of the calls is one of the following: a pure non-transparent call; a pure transparent call; a call comprising two or more connections.

26. (Previously Presented) A mobile communication network according to claim 19, comprising

means for detecting that the mobile communication network is temporarily unable to allocate more transmission capacity or the required amount of transmission capacity to the traffic channel when a new call or connection is set up,

means for reallocating the available capacity of the common traffic channel to the calls, and

means for allocating the requested capacity to the traffic channel later when capacity becomes available in the network.

27. (Currently Amended) A mobile communication network ~~according to claim 26~~, comprising

means for establishing one traffic channel of the mobile communication network for two or more simultaneous mobile communication network calls of a mobile station,

means for sharing the capacity of said common traffic channel between said simultaneous calls,

means for detecting that the mobile communication network is temporarily unable to allocate more transmission capacity or the required amount of transmission capacity to the traffic channel when a new call or connection is set up,

means for allocating the requested capacity to transparent calls or connections and the remaining capacity to non-transparent calls or connections when the mobile communication network is temporarily unable to allocate more transmission capacity or the required amount of transmission capacity to the common traffic channel, and

means for allocating the requested capacity to non-transparent calls or connections later when capacity becomes available in the network.

28. (Previously Presented) A mobile communication network according to claim 19, wherein the mobile communication network is configured to monitor the traffic

of at least one call or connection on the traffic channel and to use the temporarily unused resources for the traffic of at least one other call or connection of the same traffic channel when it is detected that there is temporarily no traffic in said at least one call or connection.

29. (Previously Presented) A mobile communication network according to claim 28, comprising

means for detecting that the information flow of a transparent call or connection contains a filler according to the protocol used, such as flags or control frames,

means for deleting said filler from the transparent information flow at the transmitting end,

means for transmitting frames or packets of at least one non-transparent or packet-switched connection via the common traffic channel instead of said filler, and

means for returning said filler to the received transparent information flow in the receiver before the transparent information is transmitted further.

30. (Currently Amended) A mobile communication network ~~according to claim 22~~, comprising

means for establishing one traffic channel of the mobile communication network for two or more simultaneous mobile communication network calls of a mobile station,

means for sharing the capacity of said common traffic channel between said simultaneous calls,

means for establishing one radio link protocol link or link access control protocol link over the traffic channel between the mobile station and the interworking function, and

means for transmitting the data packets of a packet-switched call interleaved with the protocol frames of the radio link protocol or link access control protocol or encapsulated in the protocol frames.

31. (Currently Amended) A mobile station comprising

means for producing two or more simultaneous mobile communication network data calls for ~~one~~ the mobile station in a mobile communication system, ~~said means comprising~~

means for sharing the capacity of one common traffic channel assigned to two or more simultaneous calls between said simultaneous calls,

means for negotiating ~~between the mobile station and the~~ with network about the channel capacity needed for each call or connection,

means for negotiating with a network about the use or support of the common traffic channel, and

means for adjusting the capacity of said common traffic channel dynamically.

32. (Previously Presented) A mobile station according to claim 31, wherein at least one of the two or more simultaneous calls being a packet data call.

33. (Currently Amended) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls, negotiating between the mobile station and ~~the~~ a network about the channel capacity needed for each call or connection[[]],

negotiating between the mobile station and a network about the use or support of the common traffic channel, and

adjusting dynamically the capacity of the common traffic channel.

34. (Previously Presented) A method according to claim 33, wherein at least one of the two or more simultaneous calls being a packet data call.

35. (Previously Presented) A method of producing two or more simultaneous data calls for one mobile station in a mobile communication system, the method comprising

assigning only one common traffic channel to two or more simultaneous mobile communication network calls of the mobile station,

sharing the capacity of the common traffic channel between the simultaneous calls,

negotiating between the mobile station and ~~the~~ a network about the channel capacity needed for each call or connection, and  
adjusting dynamically the capacity of the common traffic channel.

36. (New) A network element for a mobile communication network, comprising  
means for establishing one traffic channel of the mobile communication network for two or more simultaneous mobile communication network calls of a mobile station,  
means for sharing the capacity of said common traffic channel between said simultaneous calls,  
means for negotiating with the mobile station about the channel capacity needed for each call or connection, and  
means adjusting dynamically the capacity of the common traffic channel.

37. (New) A network element for a mobile communication network, comprising  
means for establishing one traffic channel of the mobile communication network for two or more simultaneous mobile communication network calls of a mobile station,  
means for sharing the capacity of said common traffic channel between said simultaneous calls,  
means for negotiating with the mobile station about the channel capacity needed for each call or connection,  
means for negotiating with the mobile network about the use or support of the common traffic channel, and  
means adjusting dynamically the capacity of the common traffic channel.